

1/20/09

SITE ANALYSIS CHECK LIST

Note: Soils Conservation Service is now the USDA's 'Natural Resources Conservation Service' <http://www.nrcs.usda.gov/>

I. ABOVEGROUND

- A. Reference Directions (north or makai)
- B. Sun Exposure (see sun chart)
- C. Wind Patterns (wind rose nearest airport)
- D. Rainfall (Soils Conservation records, nearest rain gauges)

http://hi.water.usgs.gov/projects/data_hi_rain.htm (general info.)

<http://www.prh.noaa.gov/html/climate.html> (climatological data online store)

- E. Offsite Views (360° photograph)
- F. Aerial Photograph (rectified photo - corrected to be horizontally accurate)

-Hawaii EMERGE DOQQ Imagery (Contact local USGS office)

-1 Meter Resolution, Color IR

II. SURFACE

- A. Topography (ground or aerial survey, USGS map - 40-foot intervals use as a last resort)
- B. Topo-related
 - 1. Topo (lines of equal elevation, 2-foot intervals for detail, 5'-10' for planning)
 - 2. Slope Map
 - a) Less than 10% - no road restrictions
 - b) 10% - 20% - max road slope
 - c) 20% - 40% - max building without exceptional measures (grading or structural)

- d) 40%+
 - e) Drainageways
 - f) Ridge Lines
 - g) Break Lines (transition lines in the shape of the site)
 - h) Rock Outcrops
 - i) Slope Aspect (orientation of slope)
- C. Property Line (survey, tax records, on the ground markers)
- D. Address (address or tax map key (TMK) - **most information is referenced by tax map keys**)

[-http://gis.hicentral.com/](http://gis.hicentral.com/)

-Interactive Map with TMK, Owner, and Zoning Data

[- http://www.hawaiipropertytax.com/](http://www.hawaiipropertytax.com/)

-Hawaii County

- E. Existing Structures
 - 1. Buildings (maps, air photos, Osborn maps traditional reference)
 - a) Entrance Points
 - b) Uses
 - c) Floor Elevations
 - d) Other
- F. Access
 - 1. Points of Connection with Public Access
 - 2. Internal Roads
 - 3. Sidewalks
 - 4. Paths

- G. Vegetation / landscaping (tree survey 4" & above caliper, trunk diameter, drip line, height and type, photographs, aerial and detail shots)
- H. Unique Natural Features
- I. Drainage (related to topo), defined waterways, flood zones, 100-year inundation line from FIRM maps published by FEMA (Federal Emergency Management Agency), Coastal Zone Management area or special studies to determine flood related issues. Tsunami inundation areas from former Tsunami records.

<http://www.msc.fema.gov/hardcopy.shtml> (FIRM maps)

<http://www.ngdc.noaa.gov/seg/hazard/tsu.shtml> (National tsunami info.)

<http://www.flooddamagedata.org/> (National flood info)

- 1. Swamps, ponds, drywells
 - 2. Discharge points offsite (riparian rights) no change in location and quantity of discharge
- J. Aboveground Utilities - Irrigation controllers, double check valves, CATV, etc.
- K. Drainage Structures (culverts, bridges, drainage channels)
- L. Power and Communications - poles and lines
 - 1. Transformer locations
 - 2. Voltage (EMR electromagnetic radiation)
 - 3. Substation locations
- M. Street Lighting / Walkway Lighting
 - 1. Pole Locations
 - 2. Control Locations
 - 3. Character of Diffuser (down-directed preferred to avoid glare)
- N. Well Locations - Reservoir Locations

- O. Sewer pump stations, Sewage treatment plant location

III. UNDERGROUND

- A. Soils types (Soils Conservation Service maps, boring logs, soils engineer) (ASTM D-420) (Soils Conservation Service) (USDA?)

<http://soils.usda.gov/> (general info./data)

1. Structural (bearing capacity, typical 2,000 LB/SF)
2. Expansive (shrink swell based on moisture)
3. Agricultural potential (ALISH)
4. Corrosivity
5. Landslide potential, slope and soils type
6. Depth to water table
7. Depth to bedrock
8. Earthquake potential/faults
9. Utilities
10. Water supply - Source, pressure tank, valves, lines, hydrants (tanks and lines design depend on fire flow requirements), surface indications, valves and manholes

-City and County GIS has data on valves, lines, and hydrants.
11. Sewer - Treatment plant or public sewer connection point, gravity lines, manholes, pump stations, and force mains (sewer system is grade dependent for flow so has layout priority)
12. Underground power and communications - Duct bank consists of 4" PVC tubes cast in concrete with handholes (service provider responsible for wires)
13. Drainage - Storm drainage lines, manholes, drop inlets, outlets

IV. ENTITLEMENTS

A. County Zoning

http://www.co.honolulu.hi.us/refs/roh/21_990.htm (City's LUO)
<http://www.kauai-realtor.com/czo.htm> (Kauai)
<http://www.co.hawaii.hi.us/planning/rules.htm> (B. Island)
<http://ordlink.com/codes/maui/index.htm> (Maui)

B. County Special District

C. County Development Plan/Regional Plan

D. County General Plan

<http://honolulu.dpp.org/planning/92gplan.pdf> (City's Gen. Plan)
<http://www.kauaigov.org/planning/generalplan.htm> (Kauai)
http://www.co.hawaii.hi.us/general_plan_rev/main.htm (B. Island)
Maui's taken offline

E. State Land Use Designation

http://www.capitol.hawaii.gov/hrscurrent/Vol104_Ch0201-0257/HRS0205/HRS_0205-.htm (Hawaii Rev. Statutes, Ch. 205 under State Land Use Commission)

F. Special Management Area (Coastal Zone)

<http://www.co.honolulu.hi.us/refs/roh/25.htm> (Hon. Rev. Ord. Chapter 25 SMA)

G. Shoreline Setback Area (if applicable)

V. ENVIRONMENTAL ISSUES

A. Historic Sites - State or Federal Register of Historic Sites (DLNR)

<http://www.hawaii.gov/dlnr/hpd/hpregistr.htm> (State Historic Preservation Division - Hawaii and National Register of Historic Places)
<http://www.cr.nps.gov/nr/> (National Register of Historic Places)

B. Archaeological Sites - Sites, trails, burials, cultural uses (DLNR)

<http://www.hawaii.gov/dlnr/hpd/hpburials.htm> (Burials)
www.hawaiitrails.org/ (Na Ala Hele Hawaii Trail System and Access)

C. Cultural Sites - Traditional and Customary Native Hawaiian Practices

D. Endangered Species - Flora, fauna (DLNR)

<http://pacificislands.fws.gov/wesa/hawanimalsindex.html> (List of Endangered animals)
<http://www.state.hi.us/dlnr/dofaw/pubs/TEplant.html> (Plants-2001)

E. Critical Habitat - US Fish & Wildlife Service

F. Toxic Waste (environmental site assessment - past uses of the site)

VI. COASTAL ISSUES

A. Shoreline Survey

1. Short life (defined as vegetation line or upper wash if no vegetation)
2. Makai - State (COE if in navigable waters)
3. Mauka - County

B. Shoreline Access

C. Tsunami / Storm Surge Setback - FIRM maps

D. Shoreline Setback - 40' min (variance required - county)

E. Tidal Range

VII. SURROUNDING ENVIRONMENT

A. Regional

1. Circulation System
2. Utilities
3. Land Uses
4. Entitlements
5. Landmarks
6. Topo
7. Site Visibility

8. Distance to Services
 - a) Fire
 - b) Schools
 - c) Shopping
 - d) Bus Stop
9. Flood Potential
10. Regional Hydrology
11. Lava Flow

VIII. OTHER POSSIBLE CONSTRAINING ADJACENT LAND USES

- A. Airport
 1. Air Installations Compatible Use Zones (AICUZ) Study
 2. Accident Potential Zones (APZ)
 3. Noise Contours, Day-Night Average Sound Level (Ldn), 65 is max without soundproof construction
- B. Military Base
 1. Surface Danger Zones (SDC) (range impact areas)
 2. ESQD Arc (safety setback from stored explosives - 12,000 lbs. of **TNT** equivalent = 12,000 lin. ft.)
 3. Electromagnetic radiation (EMR) generators, radar, transmitters
- C. Agriculture / Industry
 1. Smell, dust, smoke, noise, chemicals

GENERAL INFORMATION

<http://www.state.hi.us/dbedt/gis/> (State GIS)

1. City and County of Honolulu's online GIS system: Honolulu Land Information System (HOLIS): <http://gis.hicentral.com/>
 - a. Zoning (Land Use Ordinance)
 - b. Tax Map Information
 - c. State Land Use District
 - d. Color Aerial (Honolulu only)
 - e. Color IR Aerial (Oahu)
 - f. Utilities (Sewer and Storm Drainage)
 - g. Flood/Flood Elevations (FIRM)
 - h. Topography (20-ft contour)
 - i. Special Management Area (SMA)
 - j. USGS Quad Map
 - k. Census Blocks
 - l. Council Districts
 - m. Neighborhood Boards
2. City and County of Honolulu Tax Maps:
<ftp://gisftp.hicentral.com/TaxMaps/>
3. Oahu Development/Sustainable Community Plans:
<http://honoluluodpp.org/planning/dpmap.pdf>
4. Archaeological and Historic Sites at DLNR website:
<http://www.hawaii.gov/dlnr/hpd/index.htm>
5. State Land Use District Maps and Rules:
<http://luc.state.hi.us/>
6. State Data Book:
<http://www.state.hi.us/dbedt/stats.html>
7. Weather:
<http://iwin.nws.noaa.gov/iwin/hi/hi.html>
<http://www.csc.noaa.gov/crs/data.html> (NOAA Coastal Data)
8. Soil Survey:
<http://www.ctahr.hawaii.edu/soilsurvey/soils.htm>
<http://www.fws.gov/data/gishome.html> (Fish and Wildlife)